FINAL CLOSE OUT REPORT

MILOS ADIT MAINTENANCE PROJECT

FOR

DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU
HELENA, MONTANA

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I. INTRODUCTION

The Milos Adit Drain Maintenance Project involved the restoration of a mine water drainage system in an adit located in Section 26, R6E, T19N, at the eastern edge of the town of Belt, Montana.

The adit had been part of the Lewis Coulee pipeline reclamation project which was completed in 1985. Since that time, the acidic water flowing through the mine has reacted with the gravel which was installed as part of the original collector system. This chemical reaction subsequently raised the pH of the AMD causing the precipitation of various metal compounds which clogged the gravel and sealed the collector system. As a result of the sealing of the collector system, the acid mine discharge was coming up through an overflow pipe and discharging over previously reclaimed lands and through the equipment yard of a local contractor. The accumulation of water behind the plugged collector was a potentially hazardous situation. Hydrostatic pressure may have caused a catastrophic failure of the mine backfill in time.

This maintenance project involved the excavation of the adit, removal of the sand and gravel which were part of the original collector system, and the installation of a precast concrete collector which did not use any gravel as a filter medium. Water flowing into the collector was directed into the existing drainage pipe. Also included with this project was the erection of a retaining wall at the mouth of the adit, designed to keep the replaced backfill out of the adit and collector.

The adit and collector were then backfilled and all disturbed areas were contoured to match the adjacent topography. The topsoil was replaced and the project area was reseeded and mulched.

II. DESCRIPTION OF RECLAMATION CONTRACT

A. CONTRACT INFORMATION

Low bidder:

Shumaker Trucking & Excavating Great Falls, Montana	Bid: $12,500.00
Notice of Award date	May 31, 1989
Notice to Proceed date	May 31, 1989
Dates of actual work	June 5, 1989 - June 18, 1989

II. DESCRIPTION OF RECLAMATION CONTRACT (CONT'D)

DSL Inspector	Mr. Ben Mundie
Project Engineer	Mr. Rich West
Project Inspectors	Mr. Jim Gold Mr. Rich West

B. DESCRIPTION OF EQUIPMENT AND METHODS USED

The equipment and construction methods used on this project were similar to those used on previous projects. A bulldozer was used to remove and store topsoil from the area adjacent to the adit. An excavator then removed the backfill over the adit and excavated gravel and mine breakdown material from inside the adit.

Once the adit was sufficiently excavated, the concrete collector was placed inside the adit and 12" PVC pipe was connected from the collector to the existing drain system. The mine water was directed into the collector opening by sealing it in place with 10 cubic yards of compacted clay fill.

A retaining wall was constructed to prevent backfill from entering into the collector and clogging it. Four telephone poles were placed vertically in the mouth of the adit onto which the retaining wall constructed of railroad ties was erected. The adit was sealed by the retaining wall, which was then backfilled over and contoured to match the existing topography.

The stored topsoil, augmented with 14 cubic yards of imported topsoil was placed over the disturbed area which was the revegetated and mulched. Seed and fertilizer were broadcast over the topsoiled area by hand and raked into the ground. Straw was spread over the area and tracked into the topsoil with the D-6 bulldozer.

C. LIST OF EQUIPMENT USED ON THIS PROJECT

Type	Make and Model	# of Units
Track Tractor	Caterpillar D6	1
Track Excavator	Drott 50	1
End Dump Truck	Mack	1

III. COST SUMMARY

Item	Unit	Quantity	Average Unit	Total Price
Remove, Stockpile and Replace Topsoil	LS	1	xxx	$ 300.00
Excavate Embankment and Expose Adit	LS	1	xxx	$1,475.00
Construct Temporary Ditch	LS	1	xxx	200.00
Install Collector	EA	1	2750.00	2,750.00
Install 12" SDR 35 PVC pipe	LF	26	12.00	312.00
Backfill Excavator	LS	1	xxx	935.00
Provide Additional Topsoil	CY	14	9.00	126.00
Revegetate and Mulch	AC	.5	1800.00	900.00
Construct Timber Bulkhead	LS	1	xxx	3,119.00
			Lump Sum Price	$10,117.00

IV. SUMMARY OF PROJECT

The Milos Adit Maintenance Project achieved all of the objectives of a reclamation effort of this type. Water from the adit is no longer running overland and through developed land, is flowing normally through the drainage system, and evidence of mining activity has been erased. Any potentially hazardous situation that might have developed due to the accumulation of acidic water in the adit has been eliminated.